

Date: 2000-05-02

# **TEST REPORT**

Page 1 of 5

No.: HM102462

**APPLICANT:** (CODE:NEB001)

NEW BRIGHT INDUSTRIAL CO., LTD.

NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON,  
HONG KONG

**DATE OF SAMPLES RECEIVED:** 2000-04-11

**DATE OF TESTING:** 2000-04-29

**DESCRIPTION OF SAMPLE(S):**

A sample of product said to be:

Product: RADIO CONTROL TOY VEHICLE TRANSMITTERS AND RECEIVERS

Manufacturer: NEW BRIGHT INDUSTRIAL CO., LTD.

Model Number: RX-3200A

Brand Name: NEW BRIGHT

Rating: 9V d.c.

Origin: CHINA

**INVESTIGATIONS REQUESTED:**

Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart B -  
Unintentional Radiator.

**RESULT/ REMARK:** Please see attached sheet(s).

**CONCLUSION:**

From the measurement data obtained, the tested sample was considered to have COMPLIED after  
modification by customer with the clause 15.109(a) & ANSI C63.4:1992 section 12.1.1.1-2 of Federal  
Communications Commission Rules and Regulations Part 15.

**TEST EQUIPMENT AUDIT:** Please see Appendix A

Law Man Kit

Test Engineer

Kitty Choy

Verify by

Patrick Wong

Patrick Wong  
Director for Managing

Date: 2000-05-02

No.: HM102462

## **TEST REPORT**

Page 2 of 5

### **TEST SUMMARY**

\*\*\*UNINTENTIONAL RADIATOR\*\*\*

- (A) Measurement of Radiated Emissions ..... Satisfactory
- (B) Line Conducted Voltage Test ..... Not applicable

### **TEST DATA**

Please refer to the attached result sheets.

Date: 2000-05-02

## TEST REPORT

Page 3 of 5

No.: HM102462

\*\*\*UNINTENTIONAL RADIATOR\*\*\*

\*\* RECEIVER SECTION \*\*

### (A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109(a)

TEST CONDITION : Normal

TEST DATE : 2000-04-29

| Freq. to<br>which<br>tuned | Freq. of<br>the<br>emission | Polarization | Meter<br>reading<br>(at 3m) | Antenna<br>factor | Field Strength (at 3m) |        |        | FCC<br>Limit<br>@ |
|----------------------------|-----------------------------|--------------|-----------------------------|-------------------|------------------------|--------|--------|-------------------|
| MHz                        | MHz                         | H-V          |                             | dB                | dB(mV)                 | mV/m   | mV/m   |                   |
| 49.860                     | 49.9                        | H            | 20.2                        | +                 | 15.0                   | 35.2   | 57.5   | 100               |
|                            | 99.7                        |              | < 1.0                       | +                 | 12.2                   | < 13.2 | < 4.6  | 150               |
|                            | 149.6                       | H            | 20.4                        | +                 | 9.8                    | 30.2   | 32.4   | 150               |
|                            | 199.4                       |              | < 1.0                       | +                 | 11.5                   | < 12.5 | < 4.2  | 150               |
|                            | 249.3                       |              | < 1.0                       | +                 | 15.9                   | < 16.9 | < 7.0  | 200               |
|                            | 299.2                       |              | < 1.0                       | +                 | 17.0                   | < 18.0 | < 7.9  | 200               |
|                            | 349.0                       |              | < 1.0                       | +                 | 17.2                   | < 18.2 | < 8.1  | 200               |
|                            | 398.9                       |              | < 1.0                       | +                 | 18.8                   | < 19.8 | < 9.8  | 200               |
|                            | 448.7                       |              | < 1.0                       | +                 | 19.7                   | < 20.7 | < 10.8 | 200               |
|                            | 498.6                       |              | < 1.0                       | +                 | 20.6                   | < 21.6 | < 12.0 | 200               |
|                            | 548.5                       |              | < 1.0                       | +                 | 22.2                   | < 23.2 | < 14.5 | 200               |
|                            | 598.3                       |              | < 1.0                       | +                 | 23.4                   | < 24.4 | < 16.6 | 200               |
|                            | 648.2                       |              | < 1.0                       | +                 | 23.5                   | < 24.5 | < 16.8 | 200               |
|                            | 698.0                       |              | < 1.0                       | +                 | 25.0                   | < 26.0 | < 20.0 | 200               |
|                            | 747.9                       |              | < 1.0                       | +                 | 26.3                   | < 27.3 | < 23.2 | 200               |
|                            | 797.8                       |              | < 1.0                       | +                 | 27.2                   | < 28.2 | < 25.7 | 200               |
|                            | 847.6                       |              | < 1.0                       | +                 | 26.6                   | < 27.6 | < 24.0 | 200               |
|                            | 897.5                       |              | < 1.0                       | +                 | 27.1                   | < 28.1 | < 25.4 | 200               |
|                            | 947.3                       |              | < 1.0                       | +                 | 28.0                   | < 29.0 | < 28.2 | 200               |
|                            | 997.2                       |              | < 1.0                       | +                 | 28.5                   | < 29.5 | < 29.9 | 500               |

### =====SUMMARY=====

All data is within limits

Broad-band Antennas were used and both polarizations of emissions were measured

Polarizations at highest reading indicated as:

H -- Horizontal                      V -- Vertical

**NOTES FOR THE RADIATION MEASUREMENT**

- (1) Test site facility:  
Open field test site located at Taipo (Hong Kong) with a metal ground plane on filed with the FCC pursuant to section 2.948 of the FCC Rules.
- (2) Distance between the EUT and measuring antenna:  
3 meters.
- (3) Measuring instrumentation's:  
CISPR Quasi-peak type field strength meter (25 MHz - 1000 MHz.). 6 dB bandwidth set at 120 KHz. Also, peak level of the fundamental emissions was measured in order to determine compliance with the 20dB peak to average limit specified in Section 15.35(b) of the FCC new Rules.
- (4) Measuring antenna:  
Broad band antenna for the frequency range 25-1000 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the Antenna Factor for measurement data. The antenna are capable of measuring both horizontal and vertical polarizations.
- (5) Frequency range scanned:  
The frequency range from 25 MHz to 1000 MHz had been searched. Readings of the highest emissions relating to the limit were reported as above.
- (6) Arrangement of EUT:  
During the test, the sample was operated at rated supply voltage and arranged for maximum emissions.
- (7) Measuring Procedure:  
In accordance with the relevant clauses of the FCC Rules Part 15 section 15.109(a) and ANSI C63.4:1992 section 12.1.1.1-2. For superregenerative receivers, an independent signal generator had been used to radiated an unmodulated were (cw) signal to the receiver at its operating frequency in order to "cohere" or resolve the individual components of the characteristic broadband emission from such a receiver. The level of such signal may need to be adjusted in order to accomplish this.
- (8) Measuring Uncertainty:  
The calculated uncertainty for measurement performed at 3M test distance are:- 30MHz to 300MHz =  $\pm 3.7\text{dB}$ , 300MHz to 1000MHz =  $\pm 3.0\text{dB}/-2.7\text{dB}$ .

Remark: Purpose of this test is to provide the Applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under FCC's Equipment Authorization Program. This test itself is not an Approval Test.

\*\*\* End of Document \*\*\*

Date: 2000-05-02

## **TEST REPORT**

Page 5 of 5

No.: HM102462

### **TEST EQUIPMENT AUDIT**

#### **Radiated Emission**

| <b>EQP NO.</b> | <b>DESCRIPTION</b>                                                           | <b>MANUFACTURER</b>                                   | <b>MODEL NO.</b>               | <b>SERIAL NO.</b>                      | <b>LAST CAL.</b> |
|----------------|------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------|----------------------------------------|------------------|
| EM007          | SPECTRUM ANALYZER                                                            | HEWLETT PACKARD                                       | HP85660B                       | 3144A21192                             | 11/06/99         |
| EM008          | SPECTRUM ANALYZER DISPLAY                                                    | HEWLETT PACKARD                                       | HP85662A                       | 3144A20514                             | 11/06/99         |
| EM009          | QUASI PEAK ADAPTOR                                                           | HEWLETT PACKARD                                       | HP85650A                       | 3303A01702                             | 11/06/99         |
| EM010          | RF PRESELECTOR                                                               | HEWLETT PACKARD                                       | HP85685A                       | 3221A01410                             | 11/06/99         |
| EM011          | ATTENUATOR/SWITCH                                                            | HEWLETT PACKARD                                       | HP11713A                       | 2508A10595                             | 11/06/99         |
| EM012          | PRE-AMPLIFIER                                                                | HEWLETT PACKARD                                       | HP8449B                        | 3008A00262                             | 11/06/99         |
| EM013          | CONTROLLER (COMPUTER),<br>COLOR MONITOR,<br>KEYBOARD & MOUSE<br>FLOPPY DRIVE | HEWLETT PACKARD<br>HEWLETT PACKARD<br>HEWLETT PACKARD | HP9000<br>HP A1097C<br>HP9133L | 6226A60314<br>3151J39517<br>2623A02468 | CM               |
| EM017          | ANTENNA                                                                      | ARA INC.                                              | LPB-2513/A                     | 1069                                   | 17/02/00         |
| EM020          | HORN ANTENNA                                                                 | EMCO                                                  | 3115                           | 4032                                   | 30/06/97         |
| EM072          | SIGNAL GENERATOR                                                             | HEWLETT PACKARD                                       | 8640B                          | 1948A11892                             | 30/03/98         |
| EM083          | HKSTC OPEN AREA TEST SITE                                                    | HKSTC                                                 | N/A                            | N/A                                    | 15/01/00         |
| EM145          | EMI TEST RECEIVER                                                            | R & S                                                 | ESCS 30                        | 830245/021                             | 10/05/99         |

**Remarks:-**

CM Corrective Maintenance

N/A Not Applicable or Not Available

TBD To Be Determined